

CLAIMS:

1. A voltage converter for generating an output voltage at an output terminal from an input voltage VDD taken from ground GND, said voltage converter comprising:
 - a capacitance Cp having a first terminal N1 and a second terminal N2,
 - four transistors T1-T2-T3-T4 of the MOS type functioning as switches, each

5 transistor being controlled by a control signal having a level varying in the rhythm of a clock signal, each transistor comprising a source, a gate, a drain, and such that the first transistor T1 is connected between the input voltage VDD and the first terminal N1, the second transistor T2 is connected between the first terminal N1 and ground GND, the third transistor T3 is connected between the input voltage VDD and the second terminal N2, and the fourth

10 transistor T4 is connected between the second terminal N2 and the output terminal, characterized in that it comprises at least a control circuit for supplying said control signal applied between the gate and the source of one of the transistors T1-T2-T3 functioning as a switch, said control circuit having the particular function of generating a control signal having an amplitude which is inversely proportional to the input voltage VDD when the

15 transistor which it controls is equivalent to a closed switch.
2. A voltage converter as claimed in claim 1, characterized in that said control circuit comprises, when it controls a transistor of the P-MOS type:
 - an additional transistor M1 of the P-MOS type functioning as a closed switch,

20 - a current source IREF_1 arranged in series with the drain-source junction of said additional transistor M1,

 - a switch COM1 having two inputs, the first input E1 of which is connected to the central tap P of the additional transistor M1 and the current source IREF_1, and the second input E2 is connected to the input voltage VDD, said switch being controlled via said

25 clock signal.
 - 3. A voltage converter as claimed in claim 1, characterized in that said control circuit comprises, when it controls a transistor of the N-MOS type:
 - an additional transistor M2 of the N-MOS type functioning as a closed switch,

- a current source IREF_2 arranged in series with the drain-source junction of said additional transistor M2,
- a switch COM2 having two inputs, the first input E1 of which is connected to the central tap P of the additional transistor M2 and the current source IREF_2, and the second input E2 is connected to ground GND, said switch being controlled via said clock signal.

4. An integrated circuit comprising a voltage converter for generating an output voltage at an output terminal from an input voltage VDD taken from ground GND, said voltage converter comprising:

- a capacitance Cp having a first terminal N1 and a second terminal N2,
- four transistors T1-T2-T3-T4 of the MOS type functioning as switches, each transistor being controlled by a control signal having a level varying in the rhythm of a clock signal, each transistor comprising a source, a gate, a drain, and such that the first transistor T1 is connected between the input voltage VDD and the first terminal N1, the second transistor T2 is connected between the first terminal N1 and ground GND, the third transistor T3 is connected between the input voltage VDD and the second terminal N2, and the fourth transistor T4 is connected between the second terminal N2 and the output terminal, characterized in that the voltage converter comprises at least a control circuit for supplying said control signal applied between the gate and the source of one of the transistors T1-T2-T3 functioning as a switch, said control signal having the particular function of generating a control signal having an amplitude which is inversely proportional to the input voltage VDD when the transistor which it controls is equivalent to a closed switch.

5. A device for reading smart cards, comprising a voltage converter for generating an output voltage at an output terminal from an input voltage VDD taken from ground GND, said voltage converter comprising:

- a capacitance Cp having a first terminal N1 and a second terminal N2,
- four transistors T1-T2-T3-T4 of the MOS type functioning as switches, each transistor being controlled by a control signal having a level varying in the rhythm of a clock signal, each transistor comprising a source, a gate, a drain, and such that the first transistor T1 is connected between the input voltage VDD and the first terminal N1, the second transistor T2 is connected between the first terminal N1 and ground GND, the third transistor T3 is

connected between the input voltage VDD and the second terminal N2, and the fourth transistor T4 is connected between the second terminal N2 and the output terminal, characterized in that the voltage converter comprises at least a control circuit for supplying said control signal applied between the gate and the source of one of the transistors T1-T2-T3
5 functioning as a switch, said control signal having the particular function of generating a control signal with an amplitude which is inversely proportional to the input voltage VDD when the transistor which it controls is equivalent to a closed switch.